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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/896,813 | 06/29/2001 | Daniel Wang | 019988000610 | 6996 |

21398 7590 06/15/2005

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INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

LEUNG, CHRISTINA Y

ART UNIT PAPER NUMBER

2633

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,813

Applicant(s)

WANG ET AL.

Examiner

Christina Y. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2-8-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 08 February 2005. These drawings are acceptable.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Barnsley (US 5,488,501 A).

Regarding claim 8, Barnsley discloses a fiberoptic network having a plurality of interconnected nodes (Figure 6 shows a network having nodes 51) with each node capable of selectively switching optical signals in a first wavelength channel in an input fiber to any one of a plurality of wavelength channels and output fibers (Figure 1 shows a node in detail; column 4, lines 8-17 and lines 58-67; column 5, lines 1-3), the fiberoptic network comprising

a control network having a reserved wavelength channel between the interconnected nodes for carrying signaling (Barnsley discloses that control signals are routed through connections in the network on different wavelength channels than the ones used for data; column 8, lines 15-30); and

control signals for network restoration and provisioning operations (Barnsley further discloses that the control signals may be used to configure/restore connections in the network; column 5, lines 54-67; column 6, lines 1-14).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (US 5,548,639 A) in view of Xiong et al. (US 6,671,256 B1).

Regarding claim 1, Ogura et al. disclose in a network having a plurality of interconnected nodes (Figures 1, 3, and 6), each node capable of selectively switching signals in a first channel and an input path and to any one of a plurality of channels and output paths (Figure 3; column 5, lines 29-47), a method of restoring connection between the nodes upon a failure of the network, the method comprising:

maintaining at each of the nodes a synchronized database (VPI table 33) of network connections between the nodes (column 2, lines 27-60; column 5, lines 16-17 and lines 37-46);

sending messages to other nodes to initiate restoration operations by a node noticing the failure (column 5, lines 57-64; column 6, lines 19-42); and

recalculating network connections around the failure by each node from a synchronized database at the node (column 6, lines 43-67; column 7, lines 1-67; column 8, lines 1-44; essentially, Ogura et al. disclose each node, such as nodes N2, N4, and N8, recalculates network connections around a failure by updating its database/VPI table).

Ogura et al. do not specifically disclose that the network is an optical network or that the channels are wavelength channels transmitted over optical fiber. However, it is well known in

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the art that nodes such as disclosed by Ogura et al. may communicate optical signals in wavelength channels over optical fiber in order to efficiently communicate large amounts of data. Xiong et al. in particular teach transmitting optical signals between nodes in a network and switching the signals in the optical domain (column 1, lines 12-37).

It would have been obvious to a person of ordinary skill in the art to use the system already disclosed by Ogura et al. in an optical network with optical signal channels as suggested by Xiong et al. in order to increase the speed and bandwidth of communications (compared to in an all-electrical network).

Regarding claim 2, Ogura et al. disclose that wherein the recalculating network connections step is performed independently by each node (column 7, lines 32-67; column 8, lines 1-48). Ogura et al. disclose that each node modifies its own database/VPI table separately to create a recalculated network connection.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnsley in view of Xiong et al.

Regarding claim 9, Barnsley discloses a network as discussed above with regard to claim 8 including telecommunications signals, but Barnsley does not specifically disclose Internet protocol signals.

However, Internet protocol signals are well known in the art. Xiong et al. particularly teach a system related to the one disclosed by Barnsley including an optical communications network with a plurality of nodes transmitting wavelength multiplexed channels including data channels and control channels (Figure 2; column 3, lines 37-55; column 4, lines 23-33). Xiong et

al. further specifically teach that the signals in their system may be Internet protocol signals (column 1, lines 12-20; column 3, lines 29-31).

It would have been obvious to a person of ordinary skill in the art to specifically use Internet protocol signals as suggested by Xiong et al. as the various signals in the network disclosed by Barnsley et al. in order to use the system to process and restore signals transmitted in the context of an Internet network and thereby improve already known/established Internet communications systems.

Allowable Subject Matter

7. Claims 3-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art, including Ogura et al., Xiong et al., and Barnsley, does not specifically disclose or fairly suggest a method including all the elements, steps, and limitations recited in claim 3 (and including claims 1 and 2 on which the claim depends), particularly wherein each node maintains a database by accepting results if all nodes complete the recalculation network connections step successfully and rejecting the results if one or more nodes do not complete the recalculation network connections step successfully.

Response to Arguments

9. Applicants' arguments filed 08 February 2005 with regard to independent claims 1 and 8 in particular have been fully considered but they are not persuasive.

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Regarding claim 1, Examiner respectfully disagrees with Applicants' assertion (on pages 8-11 of their response) that Ogura et al. do not disclose "maintaining...a synchronized database of network connections" or "recalculating network connections...by each node." Examiner respectfully notes that the claim only recites that each node maintains "a synchronized database" and does not specifically recite that each node necessarily maintains the same, complete database containing all of the network connections in the entire system. Examiner submits that Ogura et al. discloses nodes that each maintain "a" database, and that those databases can be considered "synchronized" in the sense that the information contained in each one corresponds to the others during the operation of the system.

Examiner also respectfully notes that Ogura et al. disclose "recalculating network connections" as recited in the claim in the sense that each node "recalculates" whatever connections are necessary for that node in the event of a failure, but in some circumstances, such a recalculation may result in a "no change" response.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that each node has the same database containing all network connections, or that every node modifies its database during a failure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claim 8, Examiner respectfully disagrees with Applicants' assertion (on pages 6 and 7 of their response) that Barnsley does not disclose nodes "capable of selectively switching

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optical signals in a first wavelength channel in an input fiber to any one of a plurality of wavelength channels and output fibers.”

Barnsley discloses a first wavelength channel in an input fiber such as a wavelength channel on the fiber entering input port 9a in optical switch 8 in Figure 1. Barnsley also discloses in Figure 1 at least two “wavelength channels and output fibers,” specifically two fibers exiting the optical switch 8 from output ports 11a and 11b, each fiber having a wavelength channel. Examiner respectfully submits that simply those two particular channels and fibers is “a plurality of wavelength channels and output fibers.” Barnsley therefore discloses that the node is “capable of selectively switching optical signals in a first wavelength channel in an input fiber to any one of” those two output paths. Examiner respectfully notes that the claim does not explicitly recite full wavelength switching functions in combination full spatial switching functions; the claim also only recites that the node is “capable” of the features that are recited.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

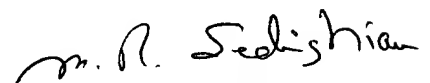
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023.

The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


M. R. SEDIGHIAN
PRIMARY EXAMINER

Applicant: Wang, et al.
Title: METHOD FOR WAVELENGTH SWITCH NETWORK RESTORATION
Sheet 1 of 3

17705-6-1

1 of 3

Replacement Sheet

ATTN: Director, Nn - 010022, 000010115

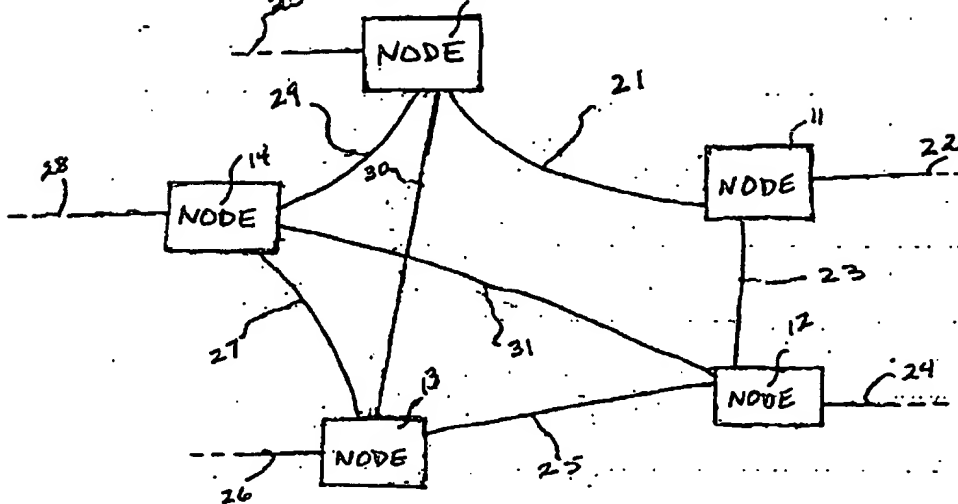


Fig. 1A

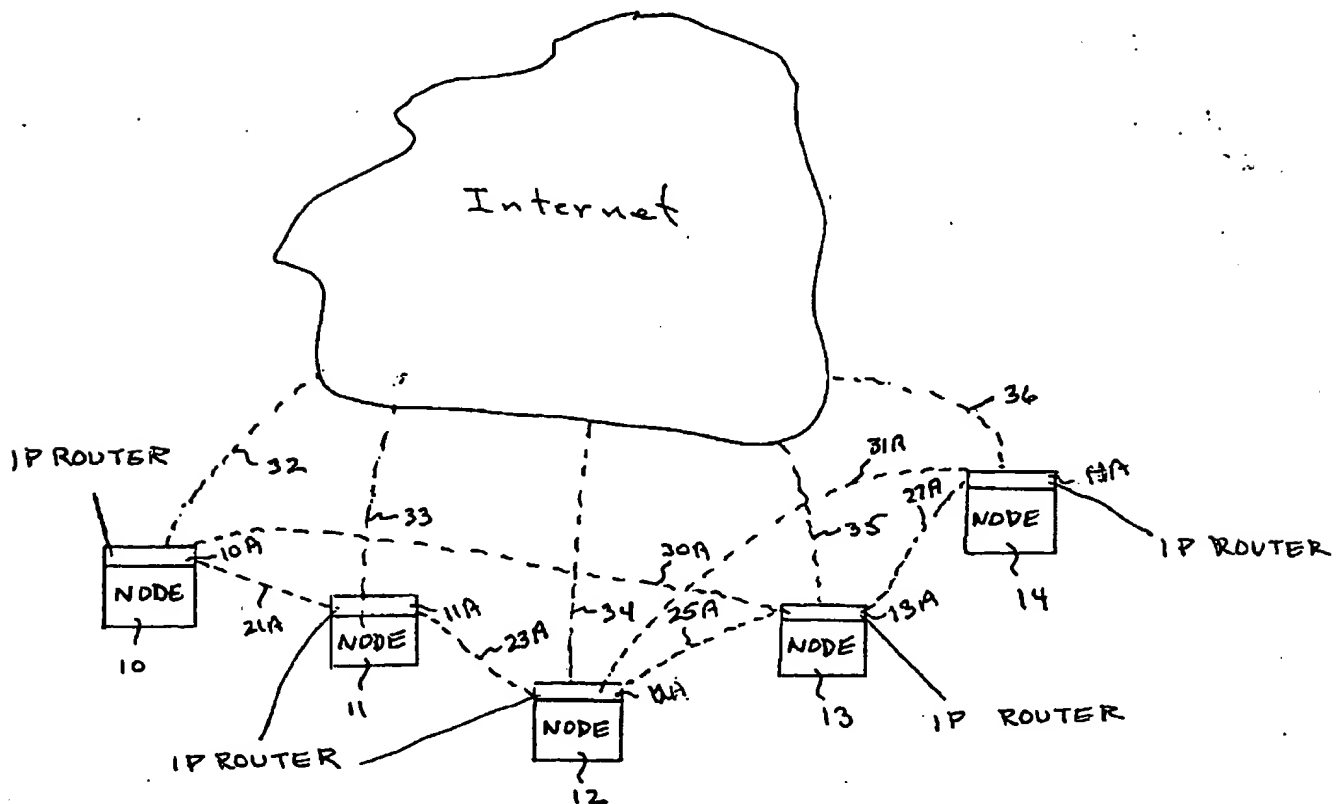


Fig. 1B